Guide to Preoperative Assessment & Planning

Pre-operative patient and family education:

Hosting surgeon can hold a preoperative class given by the staff.

It is beneficial to designate an educational nurse or staff member who is bilingual as an education captain. This person's main responsibility is teaching. They can meet with every patient to go over questions, care plans, and teaching. If time allows, they can hold a joint educational class. They can also review handouts upon discharge. It is also important to designate a family member of the patient to also go through the teaching.

Preoperative educational videos are provided on the Op Walk website. These can also be shown to patients on iPads with headphones as patients wait for their surgeries.

Set expectations appropriately. Encourage patients to exercise (especially to use a bicycle)

Medication instructions:

Stop NSAIDs, aspirin and any herbal therapies or home remedies at least 2 weeks prior to surgery. Patients can be instructed at the pre-screening clinic on how to manage diabetic and hypertensive meds the morning of surgery

Suggested Preoperative Screening tests:

1) CBC
2) BMP
3) INR
4) HgA1c (Diabetics)
5) CMP if history dictates
6) ECG
7) T&S
8) Dental screening
9) Any other specialty clearance that pertains to the patient's history
10) H&P by local medical staff
11) Appropriate orthopedic x-rays

Blood:

Order blood only as per anesthesia coordinator (goal is to minimize transfusion). Most sites will require auto, or direct donor blood reserved for each patient. However, most patients have 1-2 units reserved in the blood bank. The team should confirm with the hosting surgeon that blood has been reserved for a patient.

Peri-operative Medical Protocols

Skin prep

Can have the patient shower in the hospital if this is available. Night before and morning of surgery – head to toe chlorhexidine scrub and betadine nasal swab. The patient will have a surgical site shave and prep on the floor and then repeated in the OR.

Diet

NPO at midnight.

Warmth

Keep the patient warm before and right after surgery (heating blankets).

Blood

Transfuse if Hgb <7.0 or symptomatic.
Tranexamic acid (Cyklokapron) infusion 1g intraoperatively.

DVT Prophylaxis

This is at the discretion of individual teams based on risk stratification.
Recommended protocols:
ASA 81mg tablet BID x 4 weeks
Rivaroxaban 10mg or apixaban 2.5mg BID x 4 weeks

Fluids

0.5-1L intra-operatively, 1L per joint bolus in PACU and 1L overnight.

Antibiotics

Cefazolin 2 gm (<100kg) or 3 gm (>100kg) administered within 30 minutes of skin incision and then q 8 hours x 3 doses.
Add Vancomycin 15mg/kg if prior history of infection
True PCN allergy: Vancomycin 15mg/kg q12 hours x2 doses and levofloxacin 500mg IV preoperatively

Diabetics

Stop oral agent 48hrs pre-op, begin IVF and Insulin sliding scale. No surgery if HbA1c>8

Cardiac risk

B-blocker low dose (e.g. Metoprolol 25 mg daily) only highest risk patient and those on B-blockers preop

Implant/surgical technique

Start with a "Time Out" – make sure correct patient, correct limb, correct surgery, correct equipment, consent form in chart etc.

Intra-operative intra-articular joint injection – 100cc total:
(Ropivacine (0.5%): 50mL, epinephrine (1mg/mL): 0.5mL, clonidine (1mg/10mL): 0.8mL, ketorolac (30mg/mL): 1mL, normal Saline: 47.7mL)

Minimize operating room traffic – limit number of observers; no shift changes mid case

PACU X-rays:
THA: Hip AP
TKA: Knee AP and lateral

Anesthesia

Multimodal pain management

Preoperatively:

1. Celecoxib 400 mg
2. Paracetamol1000mg
3. Famotidine 20mg
4. Decadron 8mg IVPx1
5. Gabapentin 100mg

Intraoperatively:

Intravenous medications – ketamine, ketorolac (15-30mg) or paracetamol

Spinal anesthesia

Optional: Recommend only if there is sufficient local staff to monitor quadriceps function
Nerve blocks: Use ultrasound to identify the nerve

TKA:
Adductor canal block (saphenous nerve) (10-15 ml 0.5% bupivacaine with 5 mcg epinephrine)
THA:
Proximal fascia iliaca block (high volume low concentration infusion) can be associated with quad weakness

Postoperatively:

1. Tramadol 50mg 1-2 q 6 hours as needed for pain (or Tramadol XR 100mg BID)
2. Celecoxib 200 q day or Meloxicam 7.5 BID
3. Paracetamol 500mg 2 tablets BID
4. Gabapentin 100mg at bedtime (for pain, sleep)
5. Ondansetron (Zofran) 4 mg as needed for nausea)

Postoperative Management/Rehab

Deep breathing

Patients to "blow up the balloon" (functions as an incentive spirometer) at least 3 x a day.

Dressing

Dry sterile dressing kept on for 7-14 days; use ace wraps to cover.

Positioning

Knee replacement – pillow UNDER CALF not under knee; heel off pillow/bed
Hip replacement – leg flat or elevated with a pillow to reduce swelling; keep pillow between legs to prevent leg crossing.

Pain medications

Always “as needed” (e.g., Tramadol 2 tablets in AM, lunch, and dinner). Give with a stool softener every day to prevent constipation.
Recommend discharge with 20-25 tablets of Tramadol
Use ice for pain management – at least twice a day. The family can be shown where the cooler is so they can help themselves.

Urinary catheter

Out within 24 hours

PT protocol

Weight bearing as tolerated

Use walker until patient has regained some strength and balance. Focus on pattern of walking to eliminate limp, regain flexion and extension of knee during walking. Further focus in improving knee range to motion can be made after discharge.

(In knee replacements, regaining full knee extension and strength of quadriceps in full knee extension is most important. In hip replacements, achieving strength in gluteus medius and normalizing pattern of walking is critical)

Optional posterior hip precautions:
For hip replacements – if posterior or lateral incision, no hip flexion > 90 degrees, adduction > 0 degrees, or internal rotation > 0 degrees for 6-12 weeks.

The patients who are at higher risk for dislocation are those with weak peri-articular muscles (such as gluteus medius), prior surgeries, rheumatoid arthritis, long –standing hip problems, such as congenital dysplasia, juvenile rheumatoid arthritis etc.

Follow-up

Make sure the patient is seen in follow-up about 2 weeks after surgery (to remove staples or sutures if needed, check wound, and assess recovery). After this 6 week or 3-month follow-ups can be left to the discretion of the hosting surgeon.